
National Aeronautics and
Space Administration
NASA
SPACE LAUNCH SYSTEM
Secondary Payload Opportunities
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SLS Spacecraft/Payload Integration & Evolution
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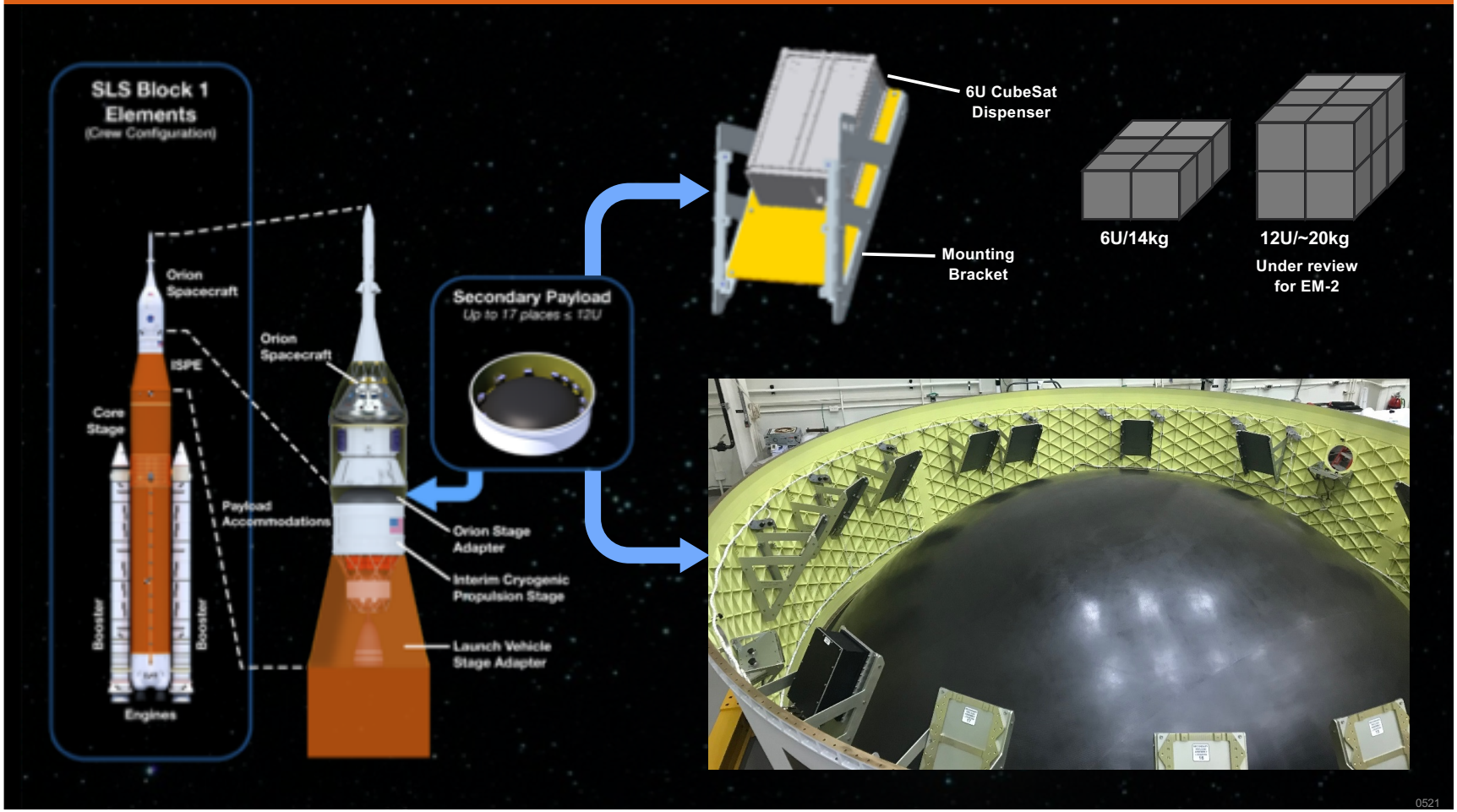
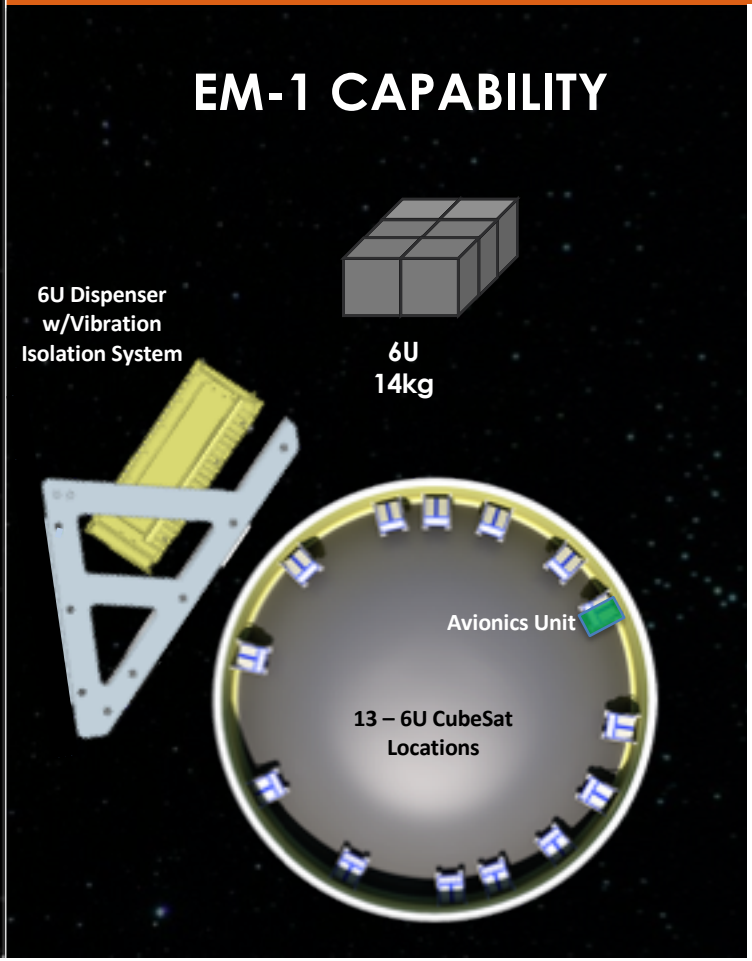
0497

BLOCK 1 CUBESAT ACCOMMODATIONS

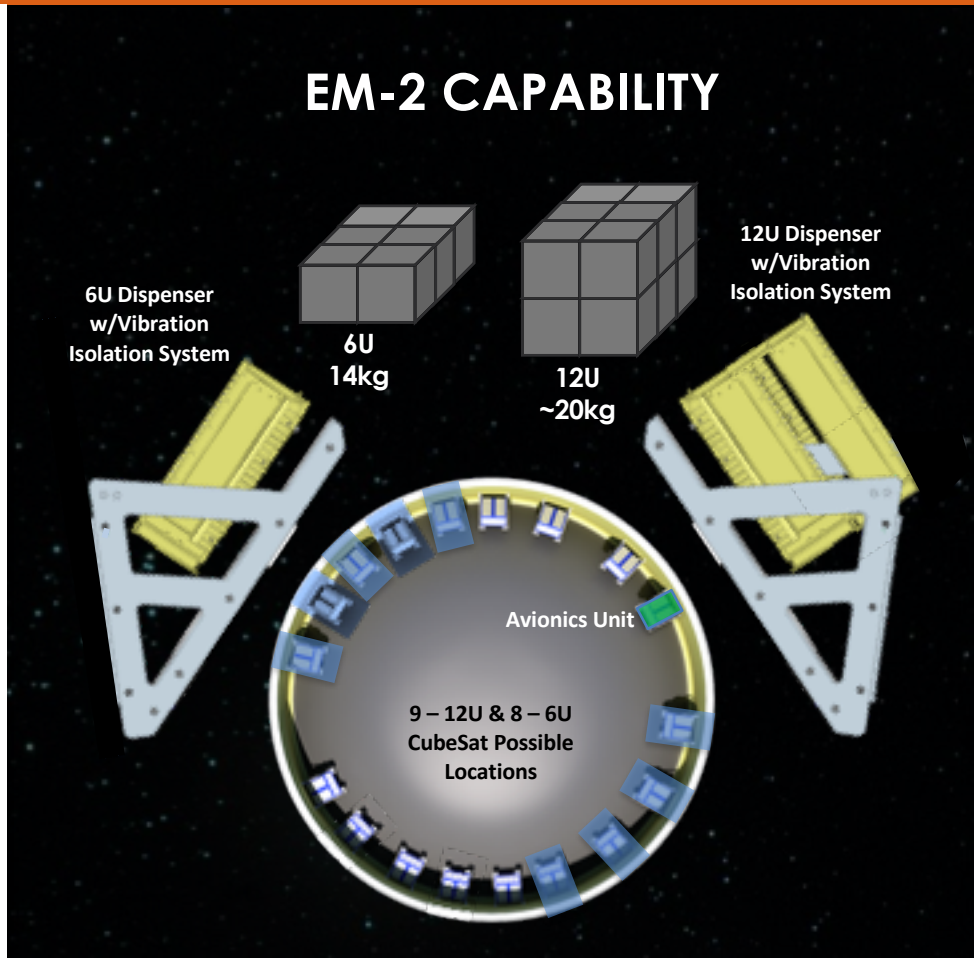


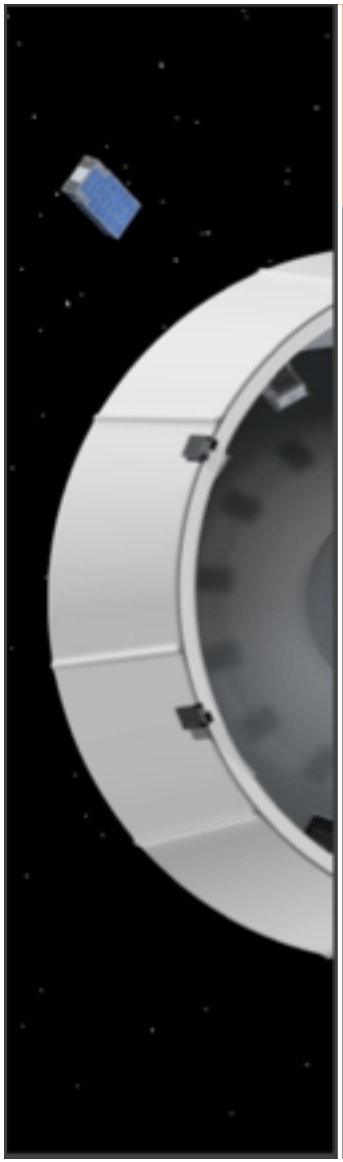
POTENTIAL EM-2 ACCOMMODATIONS

EM-1 CAPABILITY



EM-2 CAPABILITY

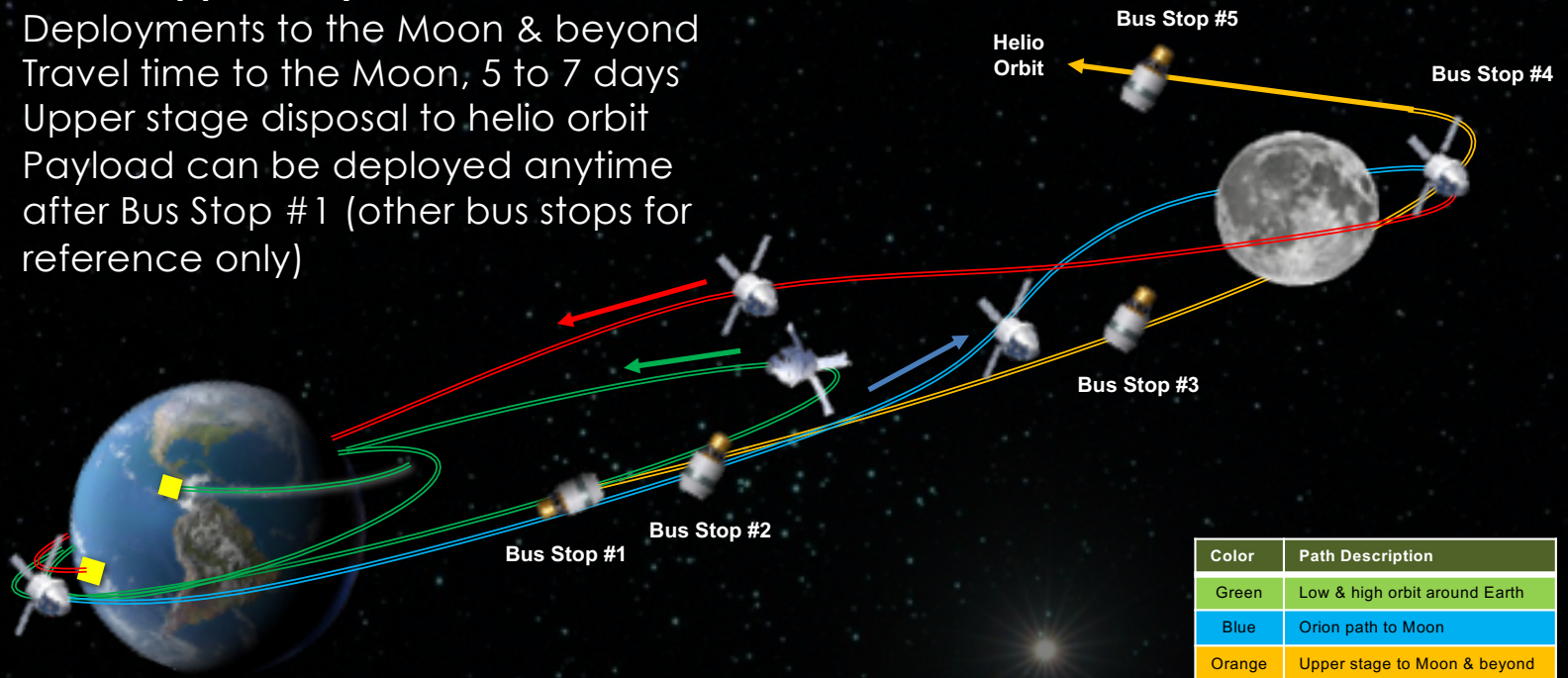




EM-2 DEPLOYMENT OPPORTUNITIES

CubeSat Opportunity:

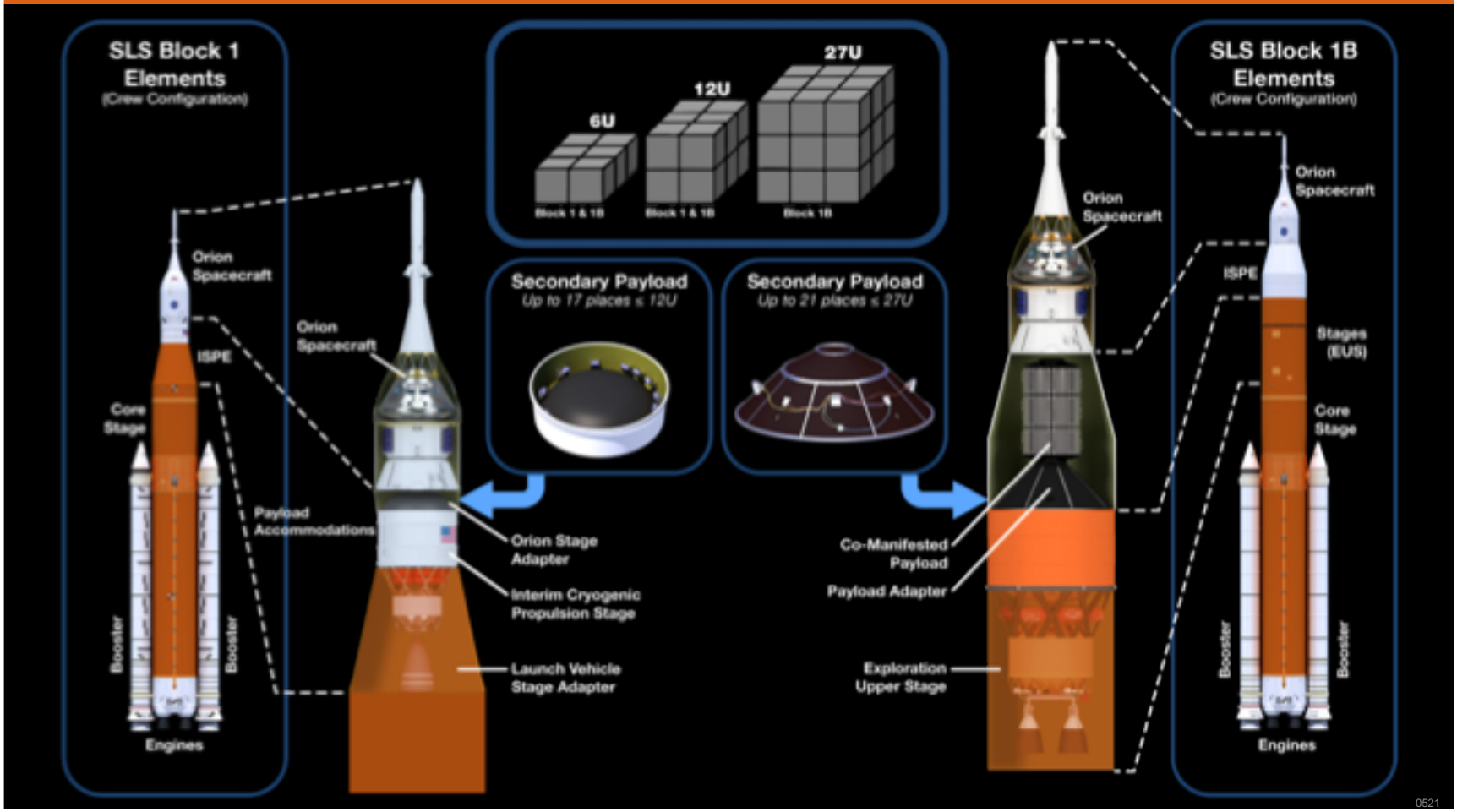
- Deployments to the Moon & beyond
- Travel time to the Moon, 5 to 7 days
- Upper stage disposal to helio orbit
- Payload can be deployed anytime after Bus Stop #1 (other bus stops for reference only)



Color	Path Description
Green	Low & high orbit around Earth
Blue	Orion path to Moon
Orange	Upper stage to Moon & beyond
Red	Orion return path to Earth

NOTIONAL

CONTINUITY TOWARD BLOCK 1B

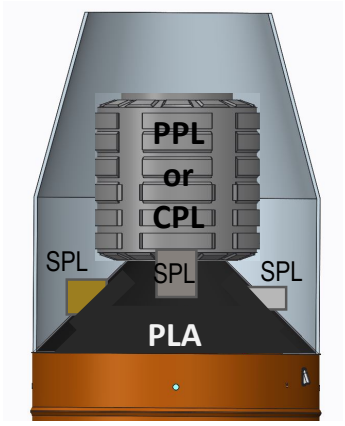


ESPA CLASS OPPORTUNITIES

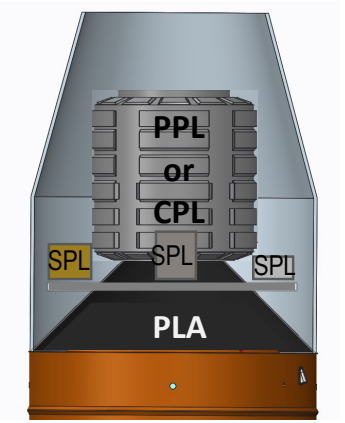
Accommodation Efficiency

1. Less height lost
2. Uses more of available diameter

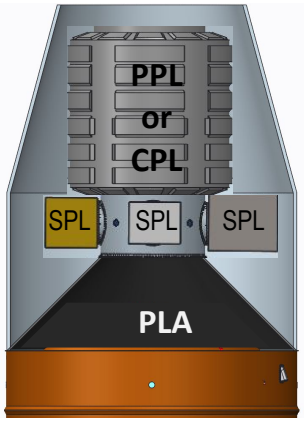
Potential ESPA-Type Accommodation Concepts



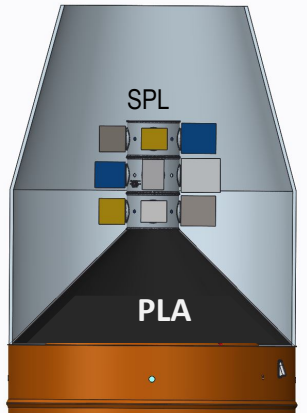
PLA ESPA Ports
(using SPL Insets)



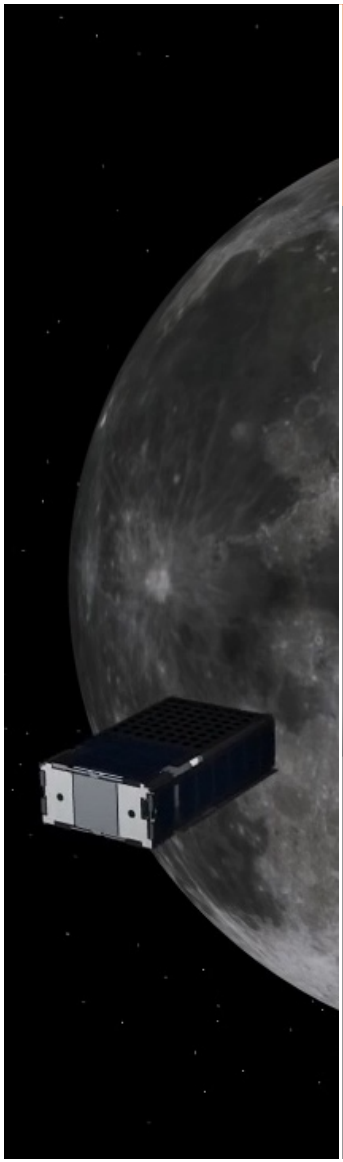
ESPA Port Shelf
(<7500 mm dia.)



ESPA Port Ring
(>1575 mm dia.)



ESPA
(1575 mm diameter)



SUMMARY

- SLS provides extraordinary opportunities for smallsats
  - Affordable access to the Moon and deep space
  - Payloads ranging from 6U/12U/27U to ESPA-class may be accommodated
- EM-1 launching in fiscal year 2020, with 13 CubeSats manifested
- Hardware for second mission in progress
- Flexible architecture will meet demands of deep space exploration
- Flight manifest includes three Block 1 flights

More Information

- SLS Mission Planner's Guide (ESD 30000)
  - Provides future payload developers/users with information to support preliminary SLS mission planning
  - Available online: https://ntrs.nasa.gov/search.jsp?R=20170005323
  - Copies can be requested via email: NASA-slspayloads@mail.nasa.gov
  - www.nasa.gov/opportunities for CubeSat payload opportunities and announcements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